REMARKS

The Office Action dated May 15, 2009 has been reviewed and carefully considered. Claims 1-4 and 8-11 remain present in the application. Claim 1, 8, 10 and 11 are the independent claims. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Claim 11 is rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter and 35 U.S.C. §112, first and second paragraphs as attempting to define a product entirely by virtue of its function, in the absence of any recited structure. Claim 11 has been rewritten as a standard statutory Beauregard claim. Thus, it is respectfully submitted that claim 11 is allowable.

Claims 2 and 11 are rejected under 35 U.S.C §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In response, claims 2 and 11 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Thus, it is respectfully submitted that claims 2 and 11 are allowable.

Claims 1, 10 and 11 stand rejected under 35 U.S.C 102(b) as being anticipated by Fujimura et al (US PAP 2005/0031166). Applicants respectfully traverse. Claims 1-4 and 8-11 stand rejected under 35 U.S.C 102(e) as being anticipated by Neumann et al (US PAP 2004/0105573). Applicants respectfully traverse.

It has been found that the generation of depth information from 2-D video provides for inappropriate results, eventually resulting in unsatisfying depth impressions. Therefore, the invention provides a multi-view image generation unit arranged to render multi-view images, which with perceptually convincing depth impression on basis of relatively limited depth information can be created.

The present invention generates a depth map by two steps, which are defining a first group of elements according to "a first group of elements of the depth map corresponding to the edge having a first depth value, related to a viewer of the multi-view image," and a second group of elements according to "a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge, having a depth value, related to the viewer of the multiview image." The first group of elements corresponds to the edge itself, whereas the second group corresponds to a region being located adjacent to the edge. It has been surprisingly found that the depth assumption is improved in case the edge appears to belong for a foreground object, and the regions adjacent to the edge appear to be background object. For this reason, the invention proposes according to "the first value being less than the second value." This means, that the first group of elements is assigned a value, which is less than a second group of elements, which refer to pixels, which are in the adjacent region of the edge. *With only the two depth values, the rendering means renders the multi-view image*. The inventors have observed that human perception integrates the very limited and partial depth information only relying on the edge and its neighborhood to complete a depth impression.

Claim 1 recites the limitation of "depth map generation means (104) for generating a depth map for the input image on basis of the edge, a first group of elements of the depth map corresponding to the edge having a first depth value, related to a viewer of the multi-view image, and a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge, having a second depth value, related to the viewer of the multi-view image, the first value being less than the second value; rendering means (106) for rendering the multi-view image using the input image and the *depth map corresponding to the two depth values.*" The Office Action points to tracking system 200, and figs 1A & 3 of Fujimura; and means 160 and 170 of system 100 of fig. 1; para. [0044]-[0045]; fig 5 and para. [0062] of Neumann to show these limitations. Applicants respectfully disagree

In the above noted sections of Fujimura, it teaches "a depth image is visually represented with variations in the pixel intensity based on the depth value, that is the objects closer to the camera appear brighter and progressively darker until the background outside a depth window is shown as black...and a stream of depth images or frame are produced...the hybrid image data includes depth data for each pixel..." see page para. [0026]. Thus, Fujimura teaches to map depth data for an entire image (e.g. each pixel) and does not teach depth map generation means for generating a depth map for the input image on basis of the edge, a first group of elements of the depth map corresponding to the edge having *a first depth value*, related to a viewer of the multi-view image, and a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge, having *a second depth value*, related to the viewer of the multi-view image, the first value being less than the second value, rendering means

(106) for rendering the multi-view image using the input image and the *depth map corresponding to the two depth values.*" as in independent claims 1, 8, 10 and 11.

The above noted sections of Neumann teach building sections that can be classified into several groups, in which appropriate building primitive are defined... the system can automatically determine the EOI [element of interest] information using a heuristic that processes standard deviation and derivative of the height data. The flat-roof is a typical roof type of man-made buildings, which can be modeled using the plane-primitive group, including 3D plan... a 3D plan primitive can be determined by two reference points and an orientation... with the two reference points, the system automatically estimates all corners of the building roof based on the global direction...[and then] detecting the roof edges using a depth discontinuity constraint..." See para. [0043] – [0045]. Although, Neumann uses various (known) techniques (including depth discontinuity constraints, 8-neighbors connectivity algorithm, Delaunay triangulation) it does not teach depth map generation means for generating a depth map for the input image on basis of the edge, a first group of elements of the depth map corresponding to the edge having *a first depth value*, related to a viewer of the multi-view image, and a second group of elements of the depth map corresponding to a region of the input image, being located adjacent to the edge, having *a second depth value*, related to the viewer of the multi-view image, the first value being less than the second value, rendering means (106) for rendering the multi-view image using the input image and the *depth map corresponding to the two depth values.*" as in independent claims 1, 8, 10 and 11.

A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference. Fujimura and/or Neumann cannot be said to anticipate the present invention, because Fujimura and/or Neumann fail to disclose each and every element recited.

Having shown that Fujimura and/or Neumann fail to disclose each and every element claimed, applicant submits that claims 1, 8, 10-11 are allowable over Fujimura and/or Neumann. Applicants respectfully request reconsideration, withdrawal of the rejection and allowance of claims 1, 8, 10-11.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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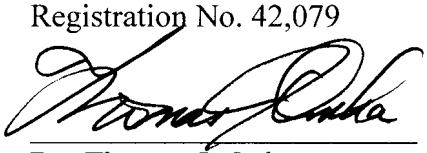

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